

Rapid establishment of Batillaria cumingi in Elkhorn Slough may have been facilitated by the absence of niche competition. Specimens of B. cumingi in the California Academy collection have been received from Tomales Bay in 1955 and Sausalito in 1958, probably from separate introductions. They were not recorded as common from these localities. I expect that they are restricted to the northwestern arm of Elkhorn Slough due to the absence of major tidal fluctuation, since these rather sluggish animals seem able to proliferate under relatively stagnant conditions.

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NOTE ON AN AGGREGATION OF
APLYSIA CALIFORNICA (COOPER).

by

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Aplysia californica (Cooper, 1863) is the largest of the California gastropods, so that its presence in large numbers is a striking sight. On September 20, 1959, these mollusks were observed in considerable numbers along the jetty at the mouth of Bodega Harbor, Sonoma County, California. Some egg masses were also seen at that time. The water was too turbid on that date for prolonged observations. On September 27, the water was somewhat less turbid, and it was possible to get a better look at the aggregation. Many individuals of Aplysia could be seen along the entire length of the northwest face of the jetty. During diving with mask and snorkel it was noted that most of these animals were concentrated at a depth estimated to be from about one foot above to one foot below mean lower low water. Most or all animals were in groups of two to seven individuals. Copulation was taking place in many of these groups and two individuals extruded semen on being handled. Egg masses were abundant at the level of the Aplysia. One mass, removed from the middle of a circle of seven animals, filled a two quart container. The eggs were encased in firm gelatinous strings, ranging in color from yellow through greenish tan to tan, each string about two mm. in diameter, and



of great length. The eggs were arranged in compartments within these strings; three or four such compartments were present in each cross-section. Two compartments, picked at random, contained 208 and 356 eggs respectively. The masses were entwined with fixed algae or were attached to rocks, evidently having stuck firmly on extrusion.

It had been hoped that an estimate of the total number of Aplysia present on the jetty could be obtained, but the cryptic coloration of the animals, together with turbidity of the water, made an accurate estimate difficult. Twelve individuals were removed from a stretch of the jetty approximately fifty feet long. Thirty minutes later several more Aplysia were present in the middle of this area, having evidently been overlooked on the first search. Others were also probably present.

All Aplysia seen were on or between the large rocks of the jetty, none being seen on the nearby sand bottom. It would seem probable that the large number of Aplysia present was part of a spawning aggregation. Detailed observations on such an aggregation might shed light on some interesting problems of orientation.



METHODS & TECHNIQUES

SEA WATER AQUARIA IN THE HOME WITHOUT FUSS

by

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How often, while shell collecting, have you regretted the necessity of killing the animals you seek? How much more interesting to be able to observe them alive and at leisure, to "raise" your collection. Conchos, as the Australians call shell collectors, can now become big (?) game hunters and bring them back alive.

Operating a sea water aquarium at home is feasible, even if you live relatively far from the ocean. Pet supply shops can furnish a 10 gallon aquarium with a circulating-filtering system for less than \$25. For about \$10 more, a 15 gallon tank, so made that no metal ever touches the water, can be purchased. This construction is a very desirable feature, as metal ions are toxic to many marine invertebrates. Other sizes are also available.

Once the tank is filled, it is not necessary to replace the water unless it goes foul. The recommended water level (determined by the type of filter system) is kept up by the addition of distilled water. (For certain types of animals it may be necessary to use only water that has been distilled in glass tubing...those ions again.) We have developed